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*Safety*

**CONFINED SPACE PROGRAM**

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This instruction implements Air Force Policy Directive 91-3, *Occupational Health and Safety*, incorporates the Air Force Occupational Safety and Health (AFOSH) Standard 91-501, Confined Space AFOSH 91-25 and 29 CFR 1910.146. It establishes the Commander's Confined Space Program as required by law. This instruction applies to all personnel assigned to the 914<sup>th</sup> Air Reserve Station, Niagara Falls, NY.

**SUMMARY OF REVISIONS**

This revision reflects all changes in the Niagara Falls ARS confined space inventory and Assessments have been incorporated (Paragraph [11.3.](#), [11.13.](#), [11.15.](#), [11.17.](#), [11.18.](#), [12.4.](#), and [12.11.](#)) Oil/water separators in facilities 2401, 421, 706, 707 and bldg. 312 have been removed. AHU#1- Air Handling Unit Crawl spaces in bldg. 803 and 860 added. A bar ( | ) indicates a revision from the previous edition

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**1. Scope:**

1.1. This program provides the essential safety requirements to be followed while entering, exiting, and working in confined spaces. This program is applicable to, but not limited to, boilers, tanks, vaults, wells, manholes, lift stations, oil/water separators, tunnels, crawl spaces, trenches, and pits. This program shall govern safety requirements for confined space entry. Safety, Fire Department and Bioenvironmental Engineering will determine individual physical limitations, hazards, and monitoring requirements. Requirements and procedures contained herein are considered mandatory.

1.2. Entry into confined spaces on military specific equipment shall be governed by the applicable Technical Order.

**2. Application:**

2.1. This program is applicable to all personnel assigned to Niagara Falls IAP-ARS, who in the performance of their duties, either on or off the installation, may be required to enter a confined space.

**3. Terms and Definitions:**

3.1. The following terms and definitions apply to the program. Definitions are taken from AFOSH Standard 91-25, 29 CFR 1910.146 and ANSI Standard Z117.1-1989.

3.2. Attendant - An individual stationed outside the permitted space that monitors the authorized entrants and performs the attendant's duties as assigned in this instruction.

3.3. Appendix - 107th ARW List of Confined Spaces.

3.4. Blinding/blanking - Inserting a solid barrier across the open end of a pipe leading into or out of the confined space, and securing the barrier in such a way to prevent leakage of material into the confined space.

3.5. Confined space - A space that: Is large enough and configured so a worker can bodily enter and perform assigned work and has limited or restricted means for entry or exit and is not designed for continuous human occupancy.

3.6. Double block and bleed - A method used to isolate a confined space from a line, duct or pipe by physically closing two in-line valves on a piping system and opening a "vented-to atmosphere" valve between them.

3.7. Egress - The act of exiting or leaving.

3.8. Emergency - Any occurrence (including failure of hazard control or monitoring equipment, or event internal or external to the confined space) which could endanger entrants.

3.9. Engulfment - The surrounding, capturing, or both, of a person by divided particulate matter or liquid.

3.10. Entrant - An employee who is authorized to enter a confined space. Authorized entrants may rotate duties serving as attendants if the permit program and the entry permit so state. The entrant must have all the proper training before entering a confined space.

3.11. Entry - The action by which a person passes through an opening into a confined space. Entry is considered to have occurred as soon as any part of the body breaks the plane of an opening into the space.

- 3.12. Entry permit - A document that is provided to allow and control entry into a permit required space and contains the information about the location, type of work to be done, and hazards in the space. (AF Form 1024 “**Confined Spaces Entry Permit**”)
- 3.13. Entry permit system - An authorization and approval in writing that specifies who is entering the space, the location of the space, work to be done, existing hazards and signatures from Fire, Safety and Bioenvironmental, and protective measures taken. (Filling out OSHA Type format or AF Form 1024)
- 3.14. Hazard evaluation - A process to assess the severity of known or potential hazards in the confined space.
- 3.15. Hazardous atmosphere - An atmosphere that may expose employees to the risk of death, impairment of the ability to self-rescue, injury or acute illness from flammable gas, vapor, or mist in excess of 10% of it LFL, Oxygen (O<sub>2</sub>) concentration below 19.5% or above 23.5%, toxic exposure, and any other atmospheric condition that is IDLH.
- 3.16. Hot work - Work within a confined space that produces arc, sparks, flames, heat, or other sources of ignition.
- 3.17. Immediately dangerous to life or health (IDLH): Any condition which poses an immediate threat of loss of life, or may result in irreversible or immediate severe health effects, eye damage or irritation, or other conditions which could impair escape from the permit space.
- 3.18. Inserting - Making the atmosphere of a space nonflammable, non-explosive, or chemically non-reactive by means of displacement or dilution.
- 3.19. Isolation - The separation of a space from unwanted forms of energy that could be a serious hazard to confined space entrants. This can be accomplished by implementing lockout/ tagout.
- 3.20. LFL - Lower flammable limit (10%). Used synonymously with lower explosive limit (LEL).
- 3.21. Lockout/tag-out - Placing a lock and tag on the energy-isolating device to prevent unexpected start-up.
- 3.22. Non permit required confined space - Permit not required but does required atmospheric testing and maintaining of record (appendix).
- 3.23. Oxygen (O<sub>2</sub>) deficient atmosphere - Atmosphere containing less than 19.5% Oxygen (O<sub>2</sub>).
- 3.24. Oxygen (O<sub>2</sub>) enriched atmosphere - Atmosphere containing more than 23.5% Oxygen (O<sub>2</sub>).
- 3.25. Permit required confined space - A confined space which has a 10% or more lower flammable limit (LFL) and/or Oxygen (O<sub>2</sub>) level below 19.5% or above 23.5% and/or a high toxicity level prior to purging or ventilating.
- 3.26. PEL - Permissible Exposure Limit is the allowable air contaminant level established by the Dept of Labor, Occupational Safety and Health Administration.
- 3.27. Qualified person - A person, who by reason of training, education, and experience is knowledgeable in the operation to be performed and is competent to judge the hazards involved.
- 3.28. Retrieval line - A line attached to an authorized entrant to assist in a non-entry rescue. To facilitate non-entry rescue, retrieval systems or methods shall be used whenever an authorized entrant

enters a permit space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant.

3.29. Shall - Denotes a mandatory requirement.

3.30. Should - A recommendation that is a sound safety and health practice. It does not denote a mandatory requirement.

3.31. Supervisor - Entry on-site individual who issues entry permit, revokes permits, ensures that qualified person evaluates/classifies confined spaces, ensures workers who enter confined spaces are properly trained and qualified in safe operating and emergency procedures, use of personal protective equipment (PPE) and egress. Maintains organizational Master Entry Permit (MEP).

3.32. TLV - Acronym for the Threshold Limit Value, the recommended air contaminant level established by the American Conference of Governmental Industrial Hygienists (ACGIH).

3.33. Toxic atmosphere - An atmosphere containing a concentration of a substance above the published or otherwise known safe levels.

3.34. Will - Denotes a mandatory requirement.

3.35. OEL - Occupational Exposure Limit.

#### **4. Duties and Responsibilities:**

##### **4.1. Functional Managers & Supervisors.**

4.1.1. Each functional manager, supervisor, and employee will ensure this program is enforced. Personal safety is of utmost importance. At no time will safety be jeopardized for the accomplishment of the task. Further it is their responsibility to ensure that everyone involved in the entry of any confined space is briefed and understands his/her role in the job task. Personnel shall be made aware of the hazards involved with confined spaces requiring entry, equipment to be used, precautions to be observed, and that no entry will be made if a condition exists which would constitute a safety hazard.

4.1.2. Supervisors or persons who authorize the entry will coordinate with Safety (SEG), Bioenvironmental Engineers (SGPB) and Fire Dept Technical Services (CEFT) to determine potential hazards for each identified confined space. The information provided to the contractor shall include the following:

4.1.2.1. Physical characteristics, barriers and the location of the space.

4.1.2.2. Existing or potential atmospheric conditions to include Oxygen (O<sub>2</sub>) level, toxicity, and combustibility.

4.1.2.3. Risk of Engulfment by bulk materials or liquids.

4.1.2.4. Future, current and past uses of the space that may adversely affect the atmosphere.

4.1.2.5. Any other physical or special hazards associated with the space such as: mechanical hazards, temperature extremes, and electrical shock.

4.1.2.6. If usage or conditions associated with the entry change while within the space, it is the responsibility of the workplace supervisor to notify Safety, Bioenvironmental, and Tech Services of the change that drives a re-evaluation.

- 4.1.2.7. Each supervisor (See paragraph 3.31.) having personnel required to enter a confined space shall personally supervise all tasks that require entry into a permit-required confined space.
  - 4.1.2.8. Supervisors will document maintenance and user calibration of atmospheric testing equipment. Also, maintain a record of all atmospheric testing accomplished prior to working in a non-permit space.
  - 4.1.2.9. Supervisors will conduct annual training and ensure understanding of confined spaces. Document training on AF Form 55 “**Employee Safety and Health Record**”. The use of automated systems is the method preferred by AFRC and stated in AFRC/SEG policy letters on this subject.
  - 4.1.2.10. Supervisors will terminate the entry and cancel the permit, and turn in to the safety office when entry operations are completed or conditions arise which are not allowed in or near the permit space.
  - 4.1.2.11. Supervisors will remove unauthorized individuals who enter or may attempt to enter.
  - 4.1.2.12. Supervisors will verify that the fire department is available for rescue when workers are in a permit required confined space.
  - 4.1.2.13. Supervisors will determine, with the assistance of Safety, Bioenvironmental, and the Fire department, whether a permit required confined space meets the criteria established for a non-permit required confined space for the work shift when a confined space entry is scheduled.
  - 4.1.2.14. Supervisors will ensure that all Personal Protective Equipment is available, used, maintained and inspected with proper documentation.
- 4.2. Authorized Entrants: Workers entering confined spaces will:
- 4.2.1. Fully understand all hazards including signs or symptoms and consequences of exposure, procedures, safeguards, and emergency egress/rescue procedures before signing on the Confined Space Entry Permit (OSHA Format or AF Form 1024). Contractors will use the format prescribed by 29 CFR, 1910.146 or its equivalent.
  - 4.2.2. Follow all safe work procedures and use equipment properly.
  - 4.2.3. Notify the attendant and/or supervisor when hazards exist that have not been corrected.
  - 4.2.4. Communicate with the attendant as necessary.
  - 4.2.5. Notify attendant when a change in condition occurs while working in a confined space including signs or symptoms of exposure to a dangerous situation or entrant detects a prohibited condition.
  - 4.2.6. Be trained in Hazard Communication, Lockout/Tag-out and Confined Spaces.
  - 4.2.7. Exit the permit required confined space immediately when ordered by the attendant or supervisor, signs/symptoms of exposure appears and, the evacuation alarm is activated.
- 4.3. Attendants will:
- 4.3.1. Remain outside the confined space and at NO TIME attempt to make a rescue involving entry into the space.

- 4.3.2. Maintain continuous communications with entrants within the confined space by an approved means of communication.
- 4.3.3. Have authority to order entrants to exit the confined space at the first indication of unexpected hazards, change in behavior, prohibited conditions, changes outside of the space which can affect the inside of the confined space, or when workers are not performing their work duties safely.
- 4.3.4. Remain at the entrance of the confined space and never leave unless replaced by an equally qualified individual.
- 4.3.5. Keep unauthorized personnel away from the entrance of the space and ensure no smoking is allowed within fifty feet of the opening.
- 4.3.6. Summon rescue and other emergency services immediately.
- 4.3.7. Performs no other duties.
- 4.3.8. Be aware of behavioral effects of hazardous exposure.
- 4.3.9. Know the hazards including signs/symptoms and consequences of exposure.
- 4.4. Wing Safety will:
  - 4.4.1. Coordinate with Bioenvironmental and the Fire Dept to identify, evaluate and conduct the necessary tests to determine the potential hazards for each confined space.
  - 4.4.2. Maintain documentation identifying each confined space and the evaluation.
  - 4.4.3. Re-evaluate all confined spaces annually or when there are repairs in the spaces which include welding which may cause a change in the atmosphere in coordination with Bioenvironmental and Fire.
  - 4.4.4. Serve as the focal point for the implementation of this program.
  - 4.4.5. Approve AF Form 1024 for all permit required confined spaces, except where contractors must use the OSHA format prescribed by 29 CFR 1910.146, Appendix D-2.
  - 4.4.6. Conduct initial background training and ensure understanding of confined spaces.
- 4.5. Fire Protection services will:
  - 4.5.1. Provide normal support for confined space rescue.
  - 4.5.2. Assist Safety and Bioenvironmental during evaluation and identification of confined spaces.
  - 4.5.3. Conduct rescue training for personnel assigned to CEF and CEFT.
  - 4.5.4. Assist in determining atmospheric monitoring, if requested by Aircraft Fuel Cell personnel.
  - 4.5.5. Sign off on AF Form 1024. (**NOTE:** This is not an authorization.) Coordination includes CEFT to ensure that the Fire Dept is aware that someone is entering a Permit Required Confined Space and that they will be available for rescue, if needed. Contractors use the OSHA-prescribed form and must contact the Base Fire Chief who approves or disapproves the use of the CEF Rescue Team IAW AFOSH Std 91-25, paragraph 7.1.2.
- 4.6. Bioenvironmental will:

- 4.6.1. Conduct Respirator Training and fit testing.
- 4.6.2. Recommend proper respiratory and other protective clothing as necessary.
- 4.6.3. Provide local training on the use, calibration, and care of atmospheric testing and monitoring equipment.
- 4.6.4. Assist Safety and Fire during evaluation and identification of confined spaces.
- 4.6.5. Assist in determining atmospheric monitoring.
- 4.6.6. Sign off on AF Form 1024.

## **5. Confined Spaces:**

5.1. Confined Space: A permit required confined space. An AF Form 1024 shall be filled out and signed off by site supervisor/requesting official, Bioenvironmental, Fire Services, Functional Manager, Safety, entrants and attendants prior to entry. (See paragraph [4.2.1](#) for contractor requirements).

- 5.1.1. Safety, Fire, and Bioenvironmental shall be notified upon entry into a confined space.
- 5.1.2. Monitoring shall be continuous throughout the entry of a confined space.
- 5.1.3. An attendant shall be present and use communication at all times during entry of a confined space. Some types of communication are radios, talking, or rope tugs.
- 5.1.4. Only explosion proof or intrinsically safe equipment will be used when flammable or explosive atmospheres are present or suspected.
- 5.1.5. Upon initial testing, if contaminants are detected and/or the space provides inadequate Oxygen (O<sub>2</sub>) levels, the supervisor will ensure ventilation is provided prior to and during entry. Entry WILL NOT be authorized until controls (example ventilation) are put into place and re-monitoring is performed to ensure safe acceptable levels are identified.
- 5.1.6. When work performed inside the confined space has the potential to cause an IDLH atmosphere or toxic atmosphere without industrial ventilation, the supervisor will ensure ventilation is used to maintain acceptable entry/atmospheric conditions within the space.
- 5.1.7. If the confined space requires the opening of a ground pit/manhole, unauthorized personnel shall barricade it to prevent accidental entry. At no time will the confined space be left open and unattended.
- 5.1.8. If conditions associated with the entry or work processes change, the permit shall be revoked until the space can be reevaluated.
- 5.1.9. When welding, cutting, and brazing are required, a hot work permit shall be obtained from 914th SPTG/CEFT (Technical Services).
- 5.1.10. Welding equipment (including arc-welding units) shall remain outside of the confined space.
- 5.1.11. Continuous monitoring will be conducted while welding is taking place.

## **6. Atmospheric testing:**



6.1. Due to the potential of hazardous conditions, atmospheric monitoring is required as to ensure safe conditions are maintained. The conditions and the nature of the work determine the frequency and types of testing. The continuous monitoring of Oxygen (O<sub>2</sub>) levels, flammable vapor levels, and toxicity levels are required for all confined space operations unless indicated on the entry permit. All data will be recorded on appendix for non-permit required confined spaces. This data will be audited annually by the Wing Safety Office.

6.2. If application of preservatives, paints, epoxies, solvents, etc., is to be introduced to the confined space, the permit shall indicate the application. If the application is not indicated on the permit, a new permit shall be issued.

6.3. No individual shall enter into confined spaces until testing is accomplished and all levels are safe for entry.

6.4. Sampling devices shall be equipped with audible or visible warning devices or both.

6.5. A sampling device shall be able to simultaneously test for Oxygen (O<sub>2</sub>) and combustible gases without having to manually switch to test the different areas.

6.6. All sampling devices shall be calibrated prior to use IAW the manufacturer specifications prior to use and shall be annotated on AF Form 1024 or OSHA-prescribed format, as applicable.

6.7. A self-check of the sampling device shall be conducted prior to sampling the confined space.

6.8. If a confined space is exited for more than thirty minutes, the space will be re-tested prior to re-entry. In addition, a self-check of the sampling device must be re-accomplished.

6.9. If anytime during the entry of a confined space, the monitor readings exceed the authorized levels, entry shall not be permitted. Safety, Bioenvironmental, and Fire shall be notified and the permit revoked.

## **7. Emergency Response and Rescue Procedures:**

7.1. The supervisor/ foreman will plan emergency and rescue procedures consistent with the operations and conditions in the confined space.

7.2. 914th SPTG Fire Department personnel will perform emergency rescue only. The confined space attendant shall not attempt rescue until the fire department arrives to back up rescue procedures.

7.3. Entry into a confined space IDLH atmosphere is prohibited.

## **8. Rescue Equipment:**

8.1. All safety belts, harnesses, life lines and straps will meet ANSI Standard Z359 and will have the manufacture's name, identification code, and date of manufacture stamped on the equipment or on a permanently attached tag.

8.2. All rescue equipment shall be inspected by the supervisor upon receipt and by the worker prior to each use. The responsible supervisor shall make a scheduled inspection of all equipment, both in use and in storage, at least every six months. A written record of this inspection will be kept by the supervisor listing the individual items of equipment by number, the condition, the defects, and action taken if defects are found. Any item not meeting the ANSI Standard shall be removed from service.

**9. Training Requirements:**

9.1. The functional manager is responsible for the training of personnel required to enter a confined space and for the safety of the entire operation. Training is the responsibility of the functional manager and will be in coordination with Safety, Bioenvironmental, and Fire. Anyone who is required to enter into a confined space, is required to be trained in confined spaces.

9.2. Training will be broken down into three areas: 1) Confined Spaces and Hazard Recognition; 2) Atmospheric Monitoring and Respirator Training; and 3) Rescue training. All training will be given annually.

9.3. Training will be documented on the Employee Safety and Health Record (AF Form 55) or through automated systems such as GO-81, as Confined Space Training.

**10. Warning Signs and Symbols:**

10.1. Each permit required confined space will have a sign, placard or other effective means (education and training) to identify the location of a confined space and to prevent UN-authorized entry.

10.2. When working in a confined space, signs and symbols will be used to indicate there is work in progress within the confined space. Traffic cones and barricades that prevent individuals from entering the confined space shall be in place. At NO TIME shall a confined space be left open while unattended.

**11. Listed below are confined spaces which require entry permits:**

11.1. Once evaluated and no hazardous atmosphere exists, and the level of oxygen is adequate etc., these spaces may be classified as non-permit for the entry being made on that work shift. Instrument monitoring of the space must continue throughout the confined space entry:

11.2. Lift Stations below Grade, Bldgs. 731(north side of exterior) and 815.

11.3. Oil/water Separators, at east and west sides POL facility 2517

11.4. Oil/Water Separators at Refueler Parking Area (Facility 3014) and Military Gas Station.

11.5. Oil/Water Separator at Roads and Grounds (Bldg. 618).

11.6. Oil/Water Separator at Engine Test Stand (Facility 1055)

11.7. POL Tanks, (facilities 2513, 2514 and 2515) within POL facility.

11.8. POL Tanks (elevated) at north side of Bldg. 532 (Military Gas Station) designated tank #1 (DL-2) and Tank #2 (MUR). Containment base of tank is non-permit unless toxic materials are introduced into its space and produce an atmosphere detectable by instrument reading.

11.9. Electrical/Communication manholes located base wide.

11.10. Storm drain manholes controlled by the 914th AW.

11.11. Sewerage manholes controlled by the 914th AW.

11.12. Fuel tanks located on the Re-Fueler trucks.

11.13. Boiler Rooms at (pit area) 502, 504 and 508.

11.14. Vehicle Maintenance, oil/water separators, south side interior Bldg. 620.

- 11.15. Aircraft Maintenance, oil/water separators, Bldg. (Hangar) 850.
- 11.16. Aircraft Maintenance, 8 C-130 Fuel tanks or Cells on each aircraft
- 11.17. Deicing fluid holding tank at Bldg. 701.
- 11.18. Mechanical Room (pit area) for Bldg. 850.
- 11.19. AFFF Storage Tank and pits Bldgs. 707, 828 and 850.
- 11.20. Fire Dept Oil/Water Separator at Bldg. 700.
- 11.21. Water Pump Station (piping), Bldg 724 and Water Supply Valves, Bldg. 729 (Both on Walmore Road).
- 11.22. Underground Vault (Utility Line Ducts) at north exterior, Bldg. 806.

**12. The following is a list of Confined Spaces not requiring entry permits :**

- 12.1. Mechanical Room on East Side (Interior), Bldg. 802 (Clinic).
- 12.2. Crawl spaces, above ceiling in mechanical room and below floor at Bldg. 802 (914th ASTS/ Clinic).
- 12.3. Dikes, surrounding POL Fuel Tanks (Facilities 2513, 2514 and 2515).
- 12.4. Crawl spaces, under building 803 (Chapel) and Air Handling Unit #1 in Ceiling .
- 12.5. Sewage Lift station, mechanical room, Bldg. 731 (permit required space is on north side of Bldg. exterior).
- 12.6. Sewage Lift Station, building 815, at street level.
- 12.7. Containment structures at base of elevated tanks at Bldg. 532 (Military Gas Station) designated as #1 (DL-2) and #2 (MUR).
- 12.8. Materials such as paints, solvents, and gases used within non-permit spaces may drive the need for a permit and must be evaluated and MSDS for the introduced material consulted.
- 12.9. Boiler Rooms (pit areas where applicable) at Bldg. 506, 800, 802, 803, 804, 805.
- 12.10. Heating Plant (pit area), Bldg. 851.
- 12.11. 2<sup>nd</sup> floor over boiler room AHU- air handling unit access area bldg. 860 (Theater).
- 12.12. Aircraft Maintenance, 5 C-130 Dry Bays on each aircraft. Subject to reclassification after evaluation of work to be accomplished; inspection and atmospheric testing prior to entry, prove different.

**13. The Confined Space Program Team (CSPT):**

- 13.1. The CSPT members are: Ground Safety Manager; Bioenvironmental Engineer; Fuel Cell Repair Supervisor and Fire Department Tech Services rep as appointed by letter of designation.

**14. This program will be reviewed annually:**

- 14.1. Organizations utilizing Confined Space Entry must maintain access to electronic versions of 29 CFR 1910.146 or AFOSH Standard 91-25, as applicable. Updates to the latter directives that necessi-

tate change so the program will be brought to the attention of participants as soon as possible following receipt.

JAMES B. ROBERT, JR, Colonel, USAFR  
Commander

**Attachment 1****914 AW CONFINED SPACES SURVEY WORKSHEET****NIAGARA FALLS IAP-ARS (AFRC ONLY)****(Kept by the safety office for 1 year)****DATE OF SURVEY:** 05 March 2004**TYPE OF SPACE:** Sewage Lift and Pump Station**PERMIT TYPE:** Required**LOCATION:** Building 731(north exterior of Building) and Building 815 (interior below grade and north exterior of Building)**FREQUENCY OF ENTRY:** As Needed**OPR FOR ENTRY:** CE**REASON FOR ENTERING THE SPACE:** Monitoring/maintenance**PPE REQUIRED:** Fall protection devices, hearing protectors, respirator, protector coveralls, gloves, and footwear.**SPECIAL INSTRUCTIONS:** Initial and continuous monitoring**AIR MONITORING EQUIPMENT:** Multi gas monitor**AIR MONITORING RESULTS REQUIRED:** Oxygen (O<sub>2</sub>): 19.5 -23.5%, LFL: 10%, CO: 0-50 PPM, Hydrogen Sulfide: 0-10 PPM**VENTILATION REQUIRED:** Yes**RESCUE EQUIPMENT:** Lifeline, retrieval device**ADDITIONAL INFORMATION:** Slip hazard**ATTENDANT REQUIRED:** Yes**MEANS OF ISOLATION:** Lockout/tag-out**POSSIBLE HAZARDS:** Methane, Hydrogen Sulfide, Slips/Falls, Oxygen (O<sub>2</sub>) deficiency, and noise.**DATE OF SURVEY:** 05 March 2004**TYPE OF SPACE:** Oil/water separator**PERMIT TYPE:** Required**LOCATION:** POL Facility (fuel farm)**FREQUENCY OF ENTRY:** As needed**OPR FOR ENTRY:** POL & CEM

**REASON FOR ENTERING THE SPACE:** Maintenance and draining water out of the oil/water separator.

**PPE REQUIRED:** Fall protection devices, respirators

**SPECIAL INSTRUCTIONS:** Initial/Continuous Air Monitoring

**AIR MONITORING EQUIPMENT:** Multi gas monitor

**AIR MONITORING RESULTS REQUIRED:** Oxygen (O<sub>2</sub>): 19.5 -23.5%, LFL: 10%, CO: 0-50 PPM, Hydrogen Sulfide: 0-10 PPM

**VENTILATION REQUIRED:** Yes

**RESCUE EQUIPMENT:** Lifeline, retrieval device

**ADDITIONAL INFORMATION:** None

**ATTENDANT REQUIRED:** Yes

**MEANS OF ISOLATION:** Lockout/tag-out, blanking

**POSSIBLE HAZARDS:** Oxygen (O<sub>2</sub>) deficiency, LPL's, Slip/fall, JP8 fuel

**DATE OF SURVEY:** 05 March 2004

**TYPE OF SPACE:** Fuel pump room

**PERMIT TYPE:** Not required

**LOCATION:** Building 420 (Facility # 2385)

**FREQUENCY OF ENTRY:** As needed

**OPR FOR ENTRY:** POL & CEM

**REASON FOR ENTERING THE SPACE:** Maintenance and normal fuel operation.

**PPE REQUIRED:** Hearing protection

**SPECIAL INSTRUCTIONS:**

**AIR MONITORING EQUIPMENT:** Multi gas meter

**AIR MONITORING RESULTS REQUIRED:** Oxygen (O<sub>2</sub>): 19.5-23.5%, LFL: 10%

**VENTILATION REQUIRED:** As Necessary

**RESCUE EQUIPMENT:** None

**ADDITIONAL INFORMATION:** Configuration

**ATTENDANT REQUIRED:** As Necessary

**MEANS OF ISOLATION:** Lockout/tag-out, blanking

**POSSIBLE HAZARDS:** Oxygen (O<sub>2</sub>) deficiency, LFL's, JP8 fuel, configuration.

**DATE OF SURVEY:** 05 March 2004

**TYPE OF SPACE:** Dikes

**PERMIT TYPE:** Not required

**LOCATION:** Surrounding 3 main POL fuel tanks

**FREQUENCY OF ENTRY:** As needed

**OPR FOR ENTRY:** POL

**REASON FOR ENTERING THE SPACE:** Maintenance and observation

**PPE REQUIRED:** None

**SPECIAL INSTRUCTIONS:**

**AIR MONITORING EQUIPMENT:** Multi gas meter

**AIR MONITORING RESULTS REQUIRED:** Yes

**VENTILATION REQUIRED:** As Necessary

**RESCUE EQUIPMENT:** None

**ADDITIONAL INFORMATION:** None

**ATTENDANT REQUIRED:** No

**MEANS OF ISOLATION:** Blanking

**POSSIBLE HAZARDS:** Oxygen (O<sub>2</sub>) deficiency, LFL's, JP8 fuel

**DATE OF SURVEY:** 05 March 2004

**TYPE OF SPACE:** POL Tanks

**PERMIT TYPE:** Permit Required

**LOCATION:** 3 storage tanks surrounded by dikes

**FREQUENCY OF ENTRY:** As needed

**OPR FOR ENTRY:** BOS Contractor and outside contractors

**REASON FOR ENTERING THE SPACE:** Maintenance and cleaning

**PPE REQUIRED:** Respirator, hard hats, gloves and boots

**SPECIAL INSTRUCTIONS:** None

**AIR MONITORING EQUIPMENT:** Multi gas monitor

**AIR MONITORING RESULTS REQUIRED:** Oxygen (O<sub>2</sub>): 19.5 -23.5%, LFL: 10%, CO: 0-50 PPM,  
Hydrogen Sulfide: 0-10 PPM

**VENTILATION REQUIRED:** Yes

**RESCUE EQUIPMENT:** Retractable lifeline set-up with full body harness.

**ADDITIONAL INFORMATION:** None

**ATTENDANT REQUIRED:** Yes

**MEANS OF ISOLATION:** Drain all fuel, blanking of fuel lines

**POSSIBLE HAZARDS:** Oxygen (O<sub>2</sub>) deficiency, LFL's, JP8 fuel

**DATE OF SURVEY:** 05 March 2004

**TYPE OF SPACE:** Crawl space

**PERMIT TYPE:** Not required

**LOCATION:** Under Buildings 802 and 803

**FREQUENCY OF ENTRY:** As needed

**OPR FOR ENTRY:** CEM

**REASON FOR ENTERING THE SPACE:** Maintenance/Repair

**PPE REQUIRED:** Eye Protection

**SPECIAL INSTRUCTIONS:**

**AIR MONITORING EQUIPMENT:** Multi gas monitor

**AIR MONITORING RESULTS REQUIRED:** Oxygen (O<sub>2</sub>): 19.5-23.5%, LFL: 10%, CO: 0-50PPM, Hydrogen Sulfide: 0-10 PPM

**VENTILATION REQUIRED:** As necessary

**RESCUE EQUIPMENT:** None

**ADDITIONAL INFORMATION:** Configuration

**ATTENDANT REQUIRED:** No

**MEANS OF ISOLATION:** Electrical Lockout/Tag-out

**POSSIBLE HAZARDS:** Electrical/animals/rodents

**DATE OF SURVEY:** 05 March 2004

**TYPE OF SPACE:** Utility

**PERMIT TYPE:** Not Required

**LOCATION:** Above ground Building near the Air Force Main Gate

**FREQUENCY OF ENTRY:** As needed

**OPR FOR ENTRY:** CEM

**REASON FOR ENTERING THE SPACE:** Maintenance/Repairs and meter reading

**PPE REQUIRED:** Eye Protection

**SPECIAL INSTRUCTIONS:**



**AIR MONITORING EQUIPMENT:** Multi gas monitor

**AIR MONITORING RESULTS REQUIRED:** Yes

**VENTILATION REQUIRED:** As Necessary

**RESCUE EQUIPMENT:** None

**LIMITATIONS:** Configuration

**ATTENDANT REQUIRED:** No

**MEANS OF ISOLATION:** Lockout/Tag-out

**POSSIBLE HAZARDS:** Electrical Shock

**DATE OF SURVEY:** 05 March 2004

**TYPE OF SPACE:** Electric/Comm. Manhole (Vault)

**PERMIT TYPE:** Required

**LOCATION:** Building 806 (north exterior of Building)

**FREQUENCY OF ENTRY:** As needed

**OPR FOR ENTRY:** CE and Comm. Contractor

**REASON FOR ENTERING THE SPACE:** Maintenance/Repairs

**PPE REQUIRED:** Gloves, rubber boots, hard hat, fall protection

**SPECIAL INSTRUCTIONS:** Initial/continuous monitoring

**AIR MONITORING EQUIPMENT:** Multi gas monitor

**AIR MONITORING RESULTS REQUIRED:** Oxygen (O<sub>2</sub>): 19.5 -23.5%, LFL: 10%, CO: 0-50 PPM,  
Hydrogen Sulfide: 0-10 PPM

**VENTILATION REQUIRED:** Yes

**RESCUE EQUIPMENT:** Retractable Lifeline

**ADDITIONAL INFORMATION:** None

**ATTENDANT REQUIRED:** Yes

**MEANS OF ISOLATION:** Lockout/Tag-out

**POSSIBLE HAZARDS:** Electrical shock, slip/fall, drowning, and oxygen deficiency

**DATE OF SURVEY:** 05 March 2004

**TYPE OF SPACE:** Storm Drain Manholes

**PERMIT TYPE:** Required (Subject to reclassification to non-permit if instrument readings show adequate oxygen, no hazardous atmosphere, etc.)

**LOCATION:** 914th AW Property

**FREQUENCY OF ENTRY:** As needed

**OPR FOR ENTRY:** CE

**REASON FOR ENTERING THE SPACE:** Maintenance/Repairs

**PPE REQUIRED:** Gloves, rubber boots, hard hat, fall protection

**SPECIAL INSTRUCTIONS:** Continuous instrument monitoring to detect changes after non-permit status is attained.

**AIR MONITORING EQUIPMENT:** Multi gas meter

**AIR MONITORING RESULTS REQUIRED:** Oxygen (O<sub>2</sub>): 19.5-23.5%, LFL: 10%, CO: 0-50 PPM, Hydrogen Sulfide: 0-10PPM

**VENTILATION REQUIRED:** Yes

**RESCUE EQUIPMENT:** Retractable Lifeline

**ADDITIONAL INFORMATION:** None

**ATTENDANT REQUIRED:** Yes

**MEANS OF ISOLATION:** Lockout/Tag-out

**POSSIBLE HAZARDS:** Electrical shock, slips/falls, drowning

**DATE OF SURVEY:** 05 March 2004

**TYPE OF SPACE:** Sewerage Manholes

**PERMIT TYPE:** Required (Subject to reclassification to non-permit if instrument readings show adequate oxygen, no hazardous atmosphere, etc.)

**LOCATION:** 914th AW Property

**FREQUENCY OF ENTRY:** As needed

**OPR FOR ENTRY:** CEM

**REASON FOR ENTERING THE SPACE:** Maintenance/Repairs

**PPE REQUIRED:** Gloves, rubber boots, hard hat, fall protection

**SPECIAL INSTRUCTIONS:** Continuous instrument monitoring

**AIR MONITORING EQUIPMENT:** Multi gas monitor

**AIR MONITORING RESULTS REQUIRED:** Oxygen (O<sub>2</sub>): 19.5 -23.5%, LFL: 10%, CO: 0-50 PPM, Hydrogen Sulfide: 0-10 PPM

**VENTILATION REQUIRED:** Yes

**RESCUE EQUIPMENT:** Retractable Lifeline

**ADDITIONAL INFORMATION:** None

**ATTENDANT REQUIRED:** Yes

**MEANS OF ISOLATION:** Lockout/Tag-out

**POSSIBLE HAZARDS:** Slips/Falls/Drowning

**DATE OF SURVEY:** 05 March 2004

**TYPE OF SPACE:** Fuel tank

**PERMIT TYPE:** Required

**LOCATION:** On Refueler Trucks and at Engine Test Stand (1055)

**FREQUENCY OF ENTRY:** As needed

**OPR FOR ENTRY:** CEM & LGTM

**REASON FOR ENTERING THE SPACE:** Maintenance/Repairs

**PPE REQUIRED:** Gloves, rubber boots, hard hat, fall protection

**SPECIAL INSTRUCTIONS:** Initial/Continuous monitoring

**AIR MONITORING EQUIPMENT:** Multi gas monitor

**AIR MONITORING RESULTS REQUIRED:** OXYGEN (O2): 19.5 -23.5%, LFL: 10%, CO: 0-50 PPM.

**VENTILATION REQUIRED:** Yes

**RESCUE EQUIPMENT:** Retractable Lifeline

**ADDITIONAL INFORMATION:** None

**ATTENDANT REQUIRED:** Yes

**MEANS OF ISOLATION:** Drain all Fuel

**POSSIBLE HAZARDS:** LFL's, Slips/Falls, Drowning

**DATE OF SURVEY:** 05 March 2004

**TYPE OF SPACE:** Boiler & Mechanical Rm. Pits

**PERMIT TYPE:** Required

**LOCATION:** Buildings 502, 504, 508, 850

**FREQUENCY OF ENTRY:** As needed

**OPR FOR ENTRY:** CEM

**REASON FOR ENTERING THE SPACE:** Maintenance/Repairs

**PPE REQUIRED:** Gloves, rubber boots, hard hats, fall protection

**SPECIAL INSTRUCTIONS:** Continuous/Initial monitoring

**AIR MONITORING EQUIPMENT:** Multi gas monitor

**AIR MONITORING RESULTS REQUIRED:** Oxygen (O2): 19.5 -23.5%, LFL: 10%, CO: 0-50 PPM, Hydrogen Sulfide: 0-10 PPM

**VENTILATION REQUIRED:** Yes

**RESCUE EQUIPMENT:** Retractable Lifeline, means of communication

**ADDITIONAL INFORMATION:** None

**ATTENDANT REQUIRED:** Yes

**MEANS OF ISOLATION:** Lockout/Tag-out

**POSSIBLE HAZARDS:** Configuration

**DATE OF SURVEY:** 05 March 2004

**TYPE OF SPACE:** Oil/Water Separators

**PERMIT TYPE:** Required

**LOCATIONS:** Building 532, 618, 620, 700, 850, 1055, 2517 and 3014

Bldg. 621 has oil/water separator that cannot be entered.

**FREQUENCY OF ENTRY:** As needed

**OPR FOR ENTRY:** Contractors

**REASON FOR ENTERING THE SPACE:** Maintenance, Repairs and water drainage

**PPE REQUIRED:** Fall Protection, gloves eye protection and hard hat

**SPECIAL INSTRUCTIONS:** Initial/Continuous Monitoring

**AIR MONITORING EQUIPMENT:** Multi gas monitor

**AIR MONITORING RESULTS REQUIRED:** Oxygen (O<sub>2</sub>): 19.5 -23.5%, LFL: 10%, CO: 0-50 PPM,  
Hydrogen Sulfide: 0-10 PPM

**VENTILATION REQUIRED:** Yes

**RESCUE EQUIPMENT:** Retractable Lifeline, retrieval device and means of communication

**ADDITIONAL INFORMATION:** None

**ATTENDANT REQUIRED:** Yes

**MEANS OF ISOLATION:** Lockout/Tag-out.

**POSSIBLE HAZARDS:** Drowning, Slips/Falls, Hydrogen Sulfide, Oxygen deficiency, JP-8 and configuration

**DATE OF SURVEY:** 05 March 2004

**TYPE OF SPACE:** Sewage Lift Station

**PERMIT TYPE:** Not Required

**LOCATION:** Building 815, (Structure at ground level only) and Building 731 (Interior)

**FREQUENCY OF ENTRY:** As needed

**OPR FOR ENTRY:** CEM

**REASON FOR ENTERING THE SPACE:** Maintenance/Repairs/monitoring

**PPE REQUIRED:** Gloves, eye protection

**SPECIAL INSTRUCTIONS:** Initial monitoring

**AIR MONITORING EQUIPMENT:** Multi gas monitor

**AIR MONITORING RESULTS REQUIRED:** Oxygen (O<sub>2</sub>): 19.5 -23.5%, LFL: 10%, CO: 0-50 PPM,  
Hydrogen Sulfide: 0-10 PPM

**VENTILATION REQUIRED:** As Necessary

**RESCUE EQUIPMENT:** Retractable lifeline

**ADDITIONAL INFORMATION:** None

**ATTENDANT REQUIRED:** As Necessary

**MEANS OF ISOLATION:** Lockout/Tag-out

**POSSIBLE HAZARDS:** None (above-ground structure only)

**Attachment 2****107TH ARW CONFINED SPACES (ONLY)  
NIAGARA FALLS IAP-ARS, NY (NYANG)****Permit Required:**

KC-135R Fuel Tanks/Bladders

KC-135R Water tank in wheel well

POL Tanks #2523 and 2524

Interior deicing fluid tanks A and B

Interior of product recovery tanks

Fuel Bowlers

Refueling Trucks

Manholes – Sanitary

**Non-Permit Required:**

Subterranean Excavations (Storm and Sewer Drains)

Oil/Water Separators: Buildings 202, 204, 902, 906, 907, 917, 918, 920 and 2519.

Tunnels under Building 901

KC-135R Forward and Aft Hell Holes

Diked Areas around POL Tanks 2523 and 2524

North/South Isolation Pit

**East/West Isolation Pit**

Fuel Hydrant Openings below the grating

Classifications as determined by 107th ARW